

DATE APPROVED

**REVISIONS** 

Lagoon Restoration Project

for City Approval:

<u>S0</u> <u>S0</u> MW

CITY ENGINEER

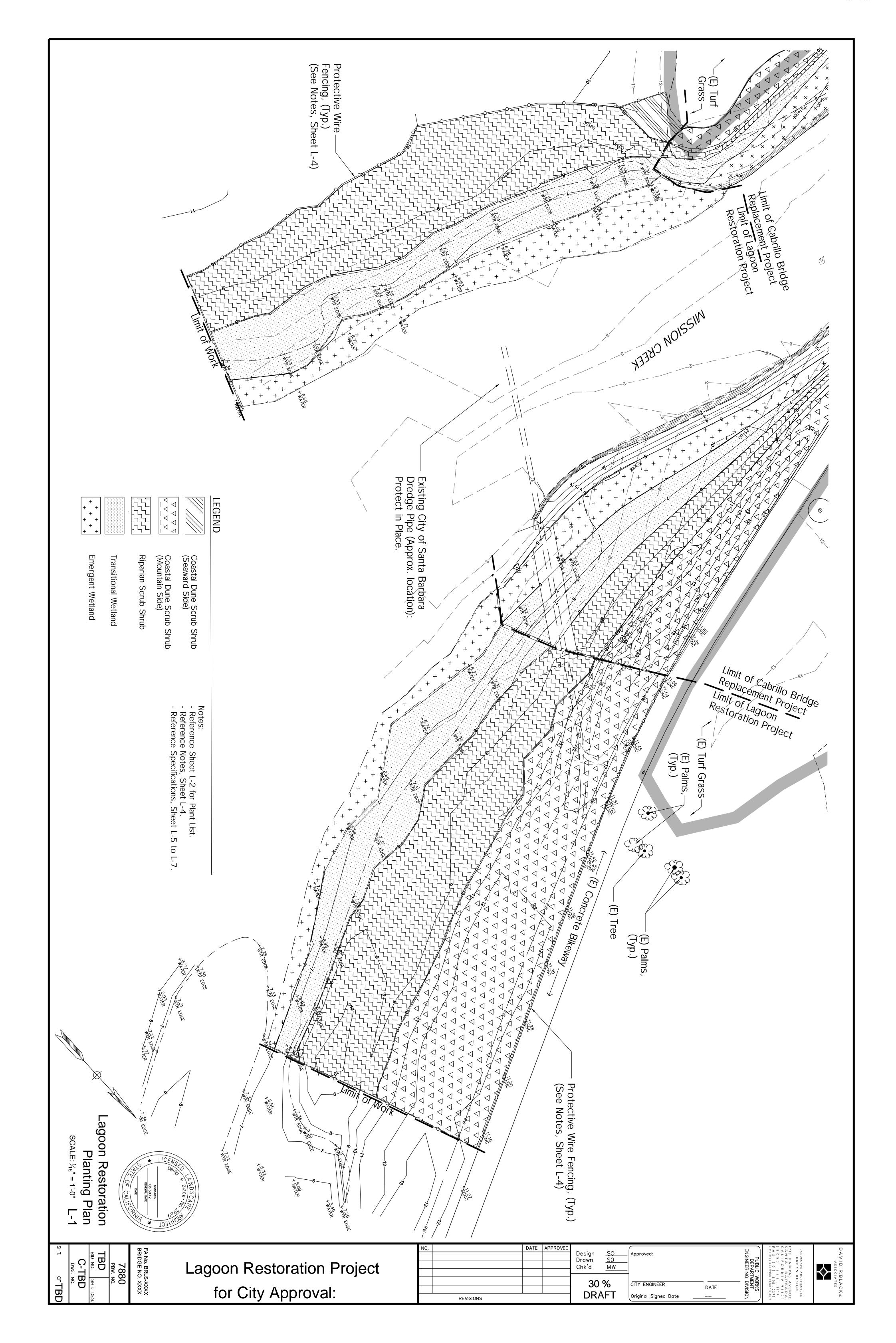
Original Signed Date

DATE

30 %

DRAFT

Design Drawn Chk'd



### PLANT LEGEND

Atriplex leucophylla

Distichlis spicata

vernonioides

Calystegia soldanella

Eriogonum parvifolium

Isocoma menziesii var

Artemisia douglasiana

Baccharis douglasii

Baccharis salicifolia

Camissonia cheiranthifolia

Riparian Scrub spacing: 6'-0"

Estimated Area: 12,840 square feet

Scientific Name	Common Name				
Coastal Dune Scrub (seaw					
Estimated Area: 300 squar	e feet				
		Status	Seed Source	Size	Quantity
Abronia umbellata spp.	Purple Sand Verbena				
umbellata			COPR/UCSB	1 gallon	2
Ambrosia chamissonis	Beach-Bur		COPR/UCSB	1 gallon	3
Atriplex lentiformis	Salt Bush			1 gallon	1
Atriplex leucophylla	Beach Saltbush		SBA/UCSB	1 gallon	2
Calystegia soldanella	Dune Morning-Glory		COPR	1 gallon	1
Camissonia cheiranthifolia	Beach Evening-Primrose		COPR/UCSB	1 gallon	3
Distichlis spicata	Salt Grass		SBA	1 gallon	1
				TOTAL	13
Coastal Dune Scrub (mou	ntain side) spacing: 4'-0"				
Estimated Area: 8,400 squa	are feet				
		Status	Seed Source	Size	Quantity
Abronia umbellata spp.	Purple Sand Verbena				
umbellata			COPR/UCSB	1 gallon	90
Ambrosia chamissonis	Beach-Bur		COPR/UCSB	1 gallon	90
Atriplex lentiformis	Salt Bush			1 gallon	60

Beach Saltbush

Salt Grass

Mugwort

Mulefat

Marsh baccharis

Dune Morning-Glory

Coastal buckwheat

Coast Goldenbush

Beach Evening-Primrose

90

30 90

60 30

60

600

103

82

20

Quantity

SBA/UCSB

COPR

COPR/UCSB

SBA

SBA

Seed Source

Status

1 gallon

1 gallon

1 gallon

1 gallon

1 gallon

1 gallon

TOTAL

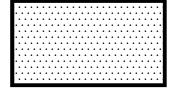
Size

1 gallon

1 gallon

1 gallon

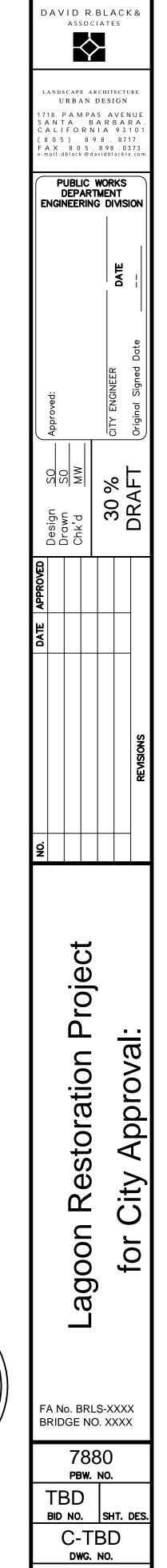
	1
▋┌┤┌┤┌┤┌┤	1

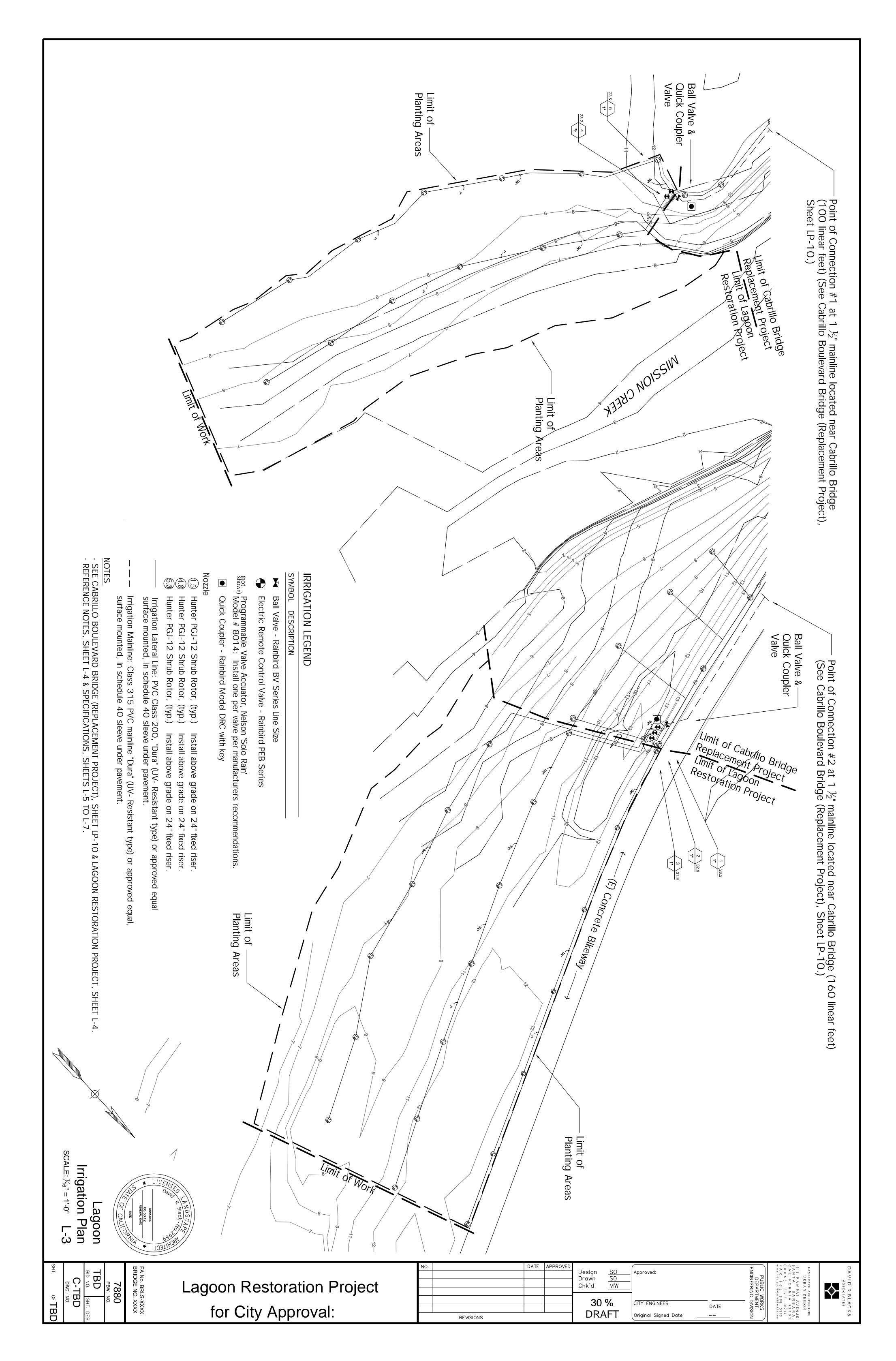


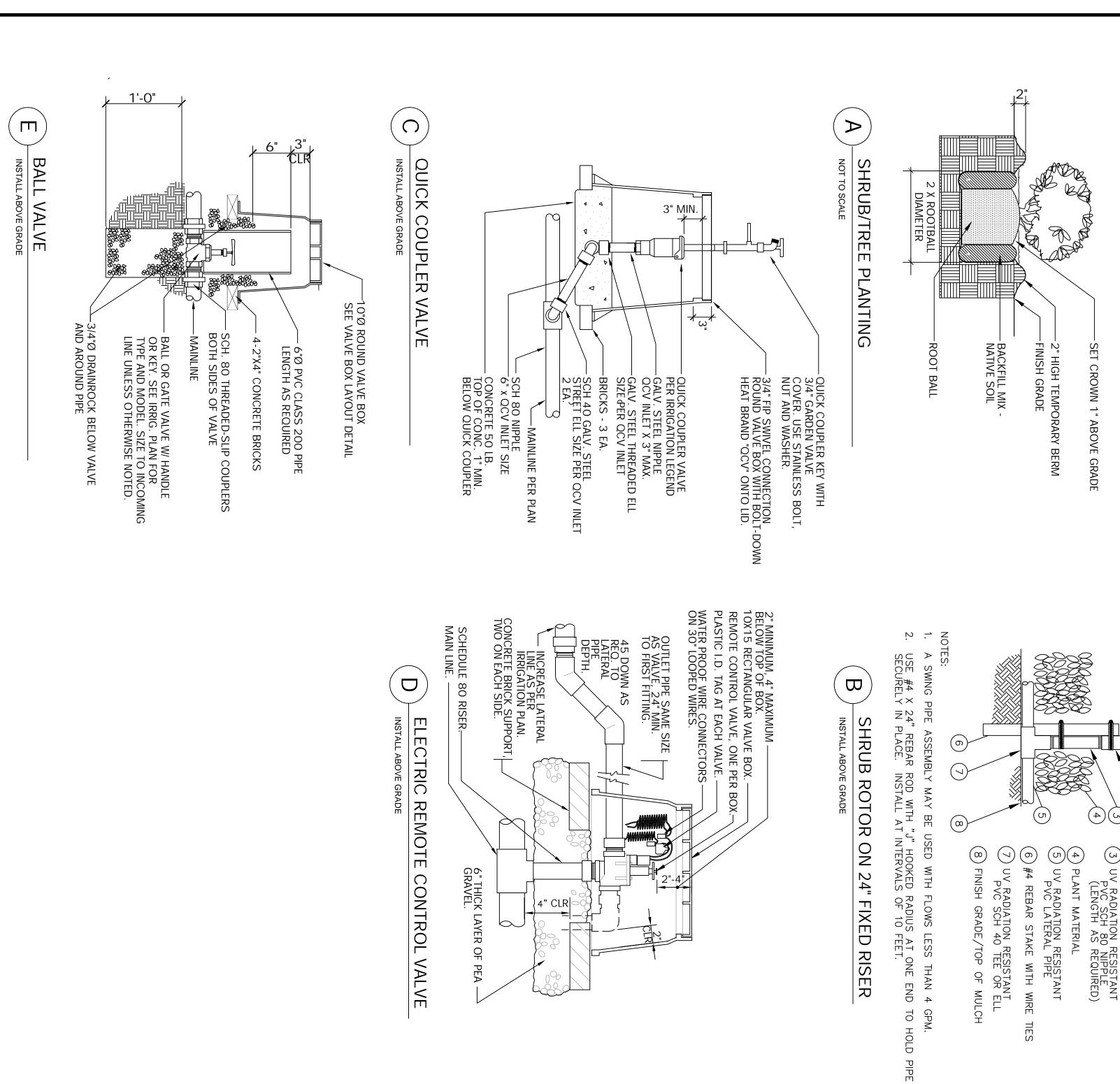
	+		+		+
+		+		+	
	_		_		_

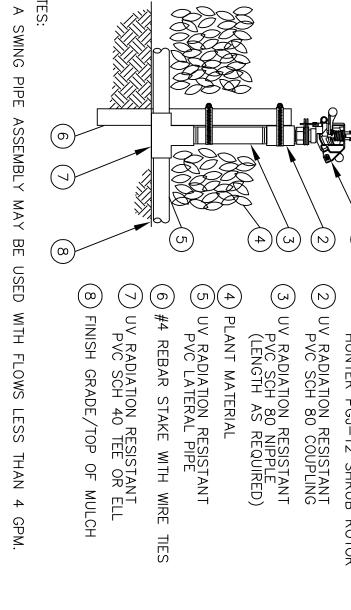
Datti lai is salitiitilia	ividiciat		i ganon	_
Distichlis spicata	Saltgrass		1 gallon	12
Isocoma menziesii var	Coast Goldenbush			
vernonioides		SBA	1 gallon	4
Leymus triticoides	Blue wild rye		1 gallon	4
			TOTAL	41
Transitional Wetlands s	pacing: 2'-0"			
Estimated Area: 7,050 sq	uare feet			
Atriplex californica	Saltbush	SBA	1 gallon	20
Cressa truxillensis var.				
truxillensis	Alkali Weed	SBA	1 gallon	10
Distichlis spicata	Salt Grass	SBA	1 gallon	40
Frankenia salina	Alkali heath	SBA	1 gallon	40
Jaumea carnosa	Jaumea	SBA	1 gallon	20
Monanthcholoe Littoralis	Shoregrass	SBA	1 gallon	10
Salicornia virginica	Pickleweed	SBA	1 gallon	40
Suaeda taxifolia	Wooly sea-blite		1 gallon	20
			TOTAL	202
Emergent Wetlands spac	ing: 2'-0"			
Estimated Area: 4,460 sq	<u> </u>			
Jaumea carnosa	Jaumea	SBA	1 gallon	25
Scirpus maritimus	Seaside bulrush	OD/	1 gallon	38
Scirpus robustus	Sturdy bulrush		1 gallon	25
Salicornia virginica	Pickleweed	SBA	1 gallon	38
Sancorria vii gii nea	1 idioweed	SBN	TOTAL	128
Notes:				
SBA= Santa Barbara Airpo	rt			
COPR= Coal Oil Point Res				
UCSB= University of Califo				











# **INSTALL ABOVE GRADE** SHRUB ROTOR ON 24" FIXED RISER

# Planting Notes

# Areas to be planted are shown on sheet L - I. Plant species, quantities, and sources are shown on the Plant List, sheet L -2. All plants shall be I-gallon container size.

. U

è

- 1. Upon completion of planting operations, the Contractor shall provide and install protective wire fencing around the restoration areas as designated on the plans. The fencing shall be vinyl-clad galvanized welded wire mesh, 14 gauge, 1"x2" openings, 48" finish height, with painted steel stakes and galvanized wire ties. Vinyl and stake color: Green.
- Wire Protective Fencing
- Final protective fencing layout shall be approved by the Engineer prior to construction.

 $\circ$ 

<u>.</u>

6" THICK LAYER OF GRAVEL.

PEA

4" CLR

# General Restoration Notes

 $\overline{(}$ 

1) IMPACT SPRINKLER: HUNTER PGJ-12 SHRUB

ROTOR

- 1. The Contractor shall remove and dispose of all invasive plant species within the project limits. Removal shall be at the direction of the Engineer and the Restoration Specialist. All invasive plant species shall be removed from all development and restoration area throughout the designated plant
- Herbicides shall not be used within the Mission Creek habitat unless otherwapproved. Target non-native or invasive species shall be removed by hand.

 $\dot{\omega}$ 

approved.

establishment period

Rodentcides containing any anti-coagulant compounds (including but not limited to Warfarin, Brodifacacoum, Bromadiolone or Diphacinone), shall not be used.

- 2. All plant materials shall be contract-grown by a designated native plant nursery (See specifications). The nursery supplier shall deliver all container plants to
- The Restoration Specialist shall be responsible for determining the final location of all plant materials prior to planting operations. Final plant locations shall be marked using colored flags.

 $\dot{\varphi}$ 

 $^{\sim}$ 

All piping installed under paving, through walls or footings shall be placed inside schedule 40 PVC sleeves of adequate size to allow free movement of the pipe in the sleeve.

# Irrigation System Notes

 $\dot{\wp}$ 

- See Irrigation Legend on sheet L -3 for a complete description of all symbols shown on this plan.
- It is the intention of the upstream irrigation system design to provide a temporary above-grade overhead spray irrigation system for the purpose of irrigating all restoration plantings shown on sheet L-3. The Contractor is responsible for making any adjustments to the layout of the irrigation system to insure 100% irrigation coverage of all plantings.
- The irrigation point-of-connection (P.O.C.) is at the 1-1/2" pressure mainline (see Cabrillo Blvd. Bridge Replacement Irrigation Plan, Sheet L-10) at the east side of the downstream bridge railing. Verify location with Engineer. Provide a line-size ball valve in a round valve box.
- All irrigation system equipment (valves, valve boxes, irrigation heads, pressure and lateral lines) shall be installed above grade. Fasten all equipment to grade with rebar staples and stakes.

4.

- The Contractor shall provide and install battery-operated control actuators on each remote control valve as shown on the irrigation legend. Program each actuator to provide optimum irrigation to all restoration plantings after planting and during the plant establishment The irrigation system is designed assuming a static water pressure of a minimum of 75 psi at the point of connection. Prior to installation of irrigation system, contractor shall verify pressure at point of connection and report any discrepancy to the Engineer.
- valve per box. All valves shall be installed in locking plastic valve boxes in shrub areas (maximum 2'-0" from edge of concrete paving for ease of access). Instalve per box. Verify final location with Engineer. Install one
- All quick couplers and ball valves shall be installed in round valve boxes and located within 2 feet of pavement for ease of access. Verify final location with the Engineer. It shall be the contractor's responsibility to install the irrigation system in accordance with all local codes.
- Indicated pipe locations are schematic. Do not place pipe under concrete paving except where absolutely necessary. Irrigation contractor shall coordinate pipe installation with other trades.

### OF CALIFORNIA SIGNATURE 06.30.12 RENEWAL DATE

Lagoon Restoration

Details & Notes

YH	F/ Bf		NO.	DATE	APPROVED				F A A A A A A A A A A A A A A A A A A A	D
	RID A					Design <u>SO</u> Drawn <u>SO</u>	Approved:		PLICATION OF STREET	> <
DWG PBV	GE B	Lagoon Restoration Project				Chk'd MW	•		CAPE R B A M A A M A B O Diack	ASS
	NO R	Lagoon Restoration Project					<del>`</del>		R N I PAS	O C - B
SHI SHI						30 %	CITY ENGINEER		CHITE DESTI- A R B A R B I A VIdbla WORI	ATE
TB	<b>\$\$</b>	for City Approval:						DATE	GN /EN AR 931 033 cklaa ASS	° Ω
DES.		ioi City Appioval.	REVISIO	DNS		DRAFT	Original Signed Date		ON 0 1 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7	&
		Tot Oity Apploval.	REVISIO	DNS		DRAFI	Original Signed Date		U E A A O O O O O O O O O O O O O O O O O	Ø.

### 2.01 <u>1</u>.0 PART . C3 ⋗ MATERIALS PRODUCT DELIVERY, STORAGE AND HANDLING SUBMITTALS SUMMARY JOB CONDITIONS $\mathcal{O}$ į ĊΩ **PRODUCTS** GENERAL Conta Drawings, section. The Contractor is cautioned to exercise care in handling, loading, unloading and storing of plant materials. Plant materials that have been damaged in any way shall be discarded, and, if installed, shall be replaced with undamaged materials at the Contractor's expense. ω All plant material shall be contract-grown and Contractor-furnished. Contractor shall be responsible for coordinating the availability and delivery of all plants listed on the plant list. All substitutions due to unavailability must be requested in writing and approved prior to confirmation of ordering. All materials shall be subject to inspection by the Restoration Specialist at any time after confirmation of ordering. All project plant material shall be contract- grown by one or other of the following nurseries. The Contractor shall be responsible for coordinating with the nursery for the propagation and delivery of plant materials as well as payment of all costs associated with the plant materials grown as part of this contract. Field Conditions: The planting plan is diagrammatic. Scaled dimensions are approximate. Prior to proceeding with installation work, the Contractor shall verify all dimensions with field conditions and notify the Engineer of any deviation on the Drawings. Storage: ĊΊ Furnish all labor, materials and equipment necessary to provide and install all plants as shown on the Drawings. The Contractor's work shall include: Growing Solutions PO Box 30081 Santa Barbara, CA 93130 Contact: Don Hartley or Karen Flagg Phone Number: (805) 452-7561 Santa Barbara Natives Inc. 14900 Calle Real Gaviota, CA 93117 Contact: Jeff Nighman Phone Number: (805) 698-4994 er Plants Dispose All plant materials shall be paid for by the Contractor as part of the contract bid. Approximately 4,330 one-gallon containers shall be grown for the project. The grower shall deliver the plants to the project site with approval of the Restoration Specialist. The Contractor shall make arrangements for delivery of the plants to the project site. Contractor shall unload plants at the project site. Maintain and protect plant material not to be planted within healthy, vigorous condition. The Contractor shall notify the Engineer 7 days in advance of delivery of all plant materials and shall submit an itemized list of the plants in each delivery. Protect plant material during delivery to prevent damage to root ball or desiccation of leaves. Use durable waterproof labels with water-resistant ink which legible for at least 60 days State correct plant name and size indicated on plant list. Maintain the planting until such time as the project has been Install all plant materials and brush mattress Store plant material in shade Deliver all plants to the site with legible identification labels Preserve and protect existing trees designated on plans Prepare all planting areas for planting. 02900-**PLANTING** of contract, apply to this planting plan 4 hours in a 3.02 3.01 PART 3.03 3 - EXECUTION WEED $\overline{\mathbf{w}}$ Ш Ō Ö Ω **EXAMINATION** į PREPARATION Fencing shall be vin openings, 48" finish Vinyl and stake cold REMOVAL ω Gener Inspect plants for injury or insect infestation. Protective Wire Fe Ņ aring and Grub Grades: sal of Excess ved by Engin The project site i City property wh circumstances. I approval by the I At the time of stone free of stone larger, and she a hindrar Prior to using approval of the proposal Weed remothe civil corinstallation. Finish grad The City sl After accepsite, the Cocontainer p Eliminate erosion scars prior to commencing maintenance Minor mo Contractor ling shall insure proper drainage of the site. to grade may be required to

The Contractor shall inspect the container plants prior to planting and provide the Restoration Specialist with a written acceptance of the plant material. Any plant material observed by the Contractor as damaged or in a condition that would limit long-term viability shall be identified in writing to the Restoration Specialist. If the Contractor installs any plant material of questionable health without the Restoration Specialist's approval, the Contractor shall replace the unacceptable material before the final acceptance at the Contractor's expense.

ptance by the Contractor of the plant material at the project ontractor shall have full responsibility for the health of the plants. These plants shall be maintained in good health and from animal damage, drought, rain damage, pests, wind, flood, ther adverse conditions.

shall stockpile plant containers for pick up by the grower.

Obtain certification that final grades to within 0.1 foot have been established prior to commencing planting operations. Provide for inclusion of all amendments, settling, etc. Contractor shall be responsible for shaping all planting areas as indicated on Drawings or as directed by the Engineer.

Do not begin planting until deficiencies are corrected or plants

The Contractor shall investigate the site for any subsurface drainage or unusual soil conditions which might prove detrimental to the success of the design as specified on the plan insofar as growth and survival of plant material is concerned. Should any such condition exist, the Contractor shall notify the Engineer and submit a proposal for corrective measures and their cost. Should the Contractor fail to provide such notification, he will be held solely responsible for any corrections deemed necessary by the City and the Engineer should

e of planting, the top 2 inches of all areas to be planted shall be nes, stumps, or other deleterious matter 1 inch in diameter or d shall be free from all wire, plaster or similar objects that would ance to planting or maintenance.

All areas shall be graded so that the final grades will be 1 inch below adjacent paved areas, sidewalks, valve boxes, clean-outs, drains, etc., as indicated on drawings.

oval shall be implemented upon completion of the civil work by intractor, working under a separate contract, and prior to plant

o using any herbicide or pesticide, the Contractor shall obtain the val of the City of Santa Barbara Parks Department, who will review oposal for compliance with the City's Pest Management Plan. The actor must have prior experience in identifying native and nonplants and applying herbicides in a precise and environmentally ive manner, so as not to affect adjacent native species, apply sive amounts of herbicide that can be transported to surface water, ause accidental spills or releases. Contractor must be able to juish between native and non-native plants at the project site.

ct site is located along the lower banks of Mission Creek, on orty where pesticide use is prohibited except under unusual nces. Herbicides are not to be used for weed removal without by the Restoration Specialist.

ဂ္ဂ

The Contractor shall verify the locations and depths of any underground utilities prior to excavation. Damage to any such utilities resulting from the Contractor's work shall be repaired at his expense.

rub all new planting areas shown in the s, (unless otherwise indicated) and debris sed of off-site. All weeds shall be removed Existing trees indicated on the plans shall be

7.

The work required under this section shall include but is not limited to all labor, tools, materials, equipment, and incidentals required to remove weeds from the project site prior to plant installation. Weed removal shall occur as shown on the Drawings, contained in these specifications, and directed by the Restoration Specialist.

D

Weed removal shall occur when weeds have germinated on the graded areas, and they exhibit sufficient growth and foliage to ensure effective treatment. The period of time from the hand-watering to the weed removal shall not be less than 10 days.

Herbicide shall not be applied if there has been a rain within 24 hours and foliage is still wet, or if rain is forecasted to occur within 48 hours winds exceed 15 miles per hour. Contractor shall postpone or curtail weed removal until these conditions are not present.

3.05

ယ

AquaMasterTM shall be used in the event that herbicide use is approved by the Restoration Specialist and allowed under the emergency provisions of the City's Integrated Pest Management Plan.

Weed Removal shall occur at the discretion of the Restoration Specialist, but no sooner than 10 days after the civil contractor has completed his work at the project site, unless otherwise directed by the Restoration Specialist. The final graded areas will be hand watered to a depth of 12 inches during the 10 days after the Civil Contractor has completed his work to stimulate weed seed germination. The initial watering shall occur within 24 hours of the civil contractor leaving the project site. A second weed removal event shall occur, at the discretion of the Restoration Specialist, immediately prior to plant installation.

The first weed removal event shall be accomplished by manual methods using hand tools. No herbicides shall be used during the first weed removal. Non-targeted plants shall not be cut or removed.

The second Weed Removal event shall occur at the discretion of the Restoration Specialist. The project site shall be hand watered to a depth of 12 inches to stimulate weed growth. Weed removal shall not occur for at least 10 days to allow for weed growth. Weed removal shall be accomplished by the application of herbicides to any emerging weeds, if allowed under the emergency provisions of the City's Integrated Pest Management Plan. If not allowed, the weeding shall be accomplished by hand. The Restoration Specialist shall be present during weed removal with herbicides to ensure appropriate and safe treatment of target species only; to monitor effectiveness of the treatment; and to ensure avoidance of the protected trees and shrubs. No weed removal shall occur until the Restoration Specialist has approved the Herbicide Treatment Plan.

For both weeding events, dead weed material shall be removed

Within 24 hours after the completion of each weed removal event, the Restoration Specialist shall inspect the site. If, after inspection, the Restoration Specialist is satisfied with weed removal, the Contractor shall be notified in writing of stage acceptance.

If, after inspection, the Restoration Specialist is dissatisfied with the work and its conformance to the Drawings and specifications, the Restoration Specialist shall prepare a written punch list of necessary corrective actions on defective work for that stage. The corrections must be completed by the Contractor within 5 days of the initial inspection.

PLANT INSTALLATION

The work required under this section shall include but is not limited to alabor, tools, materials, equipment, and incidentals required to conduct the planting of shrubs at the project site as shown on the Drawings, contained in these specifications, and directed by the Restoration Specialist.

Ņ

General

 $\Box$ 

allowed under the emergency provisions of the City's Integrated Pest Management Plan, the Contractor shall provide a description of the herbicide to be used at the project site for the weed removal including dilution and application rates; manufacturer's name; application equipment and methods; measures to protect the public, including signs, barriers, notifications, etc; measures to avoid spraying protected plants; measures to avoid discharge into creek water; evidence that the applicator is licensed to apply the herbicide; statement that the herbicide is approved by state and federal agencies for work in the type of environment at the project site.

shall not be treated with herbicide. Contractor shall on in applying the herbicide to the targeted plants

რ

Crews shall spray individual plants using backpack units with a narrow spray to minimize drift and accidental spraying of nearby native species. Non-targeted plants shall not be sprayed, nor shall not receive drift from nearby spraying. Contractor shall exercise great caution in applying the herbicide to the targeted plants only. No herbicide shall be sprayed on open water or in the creek bed. A dye shall be included in the spray to assist in tracking coverage. Plastic shields shall be used, as necessary, to avoid overspray. No herbicide application may occur within 25 feet of the creek top of bank.

 $\varpi$ 

At the beginning of the first day of planting, the Restoration Specialist shall meet with the Contractor to review planting procedures. The Restoration Specialist shall place pin flags to mark the locations where the Contractor shall install individual container plants.

The planting layout will be subject to field design by the Restoration Specialist. The Restoration Specialist reserves the right to make minor adjustments in plant layout to accomplish the intent of the Drawings. To accommodate for the uncertainties associated with the fluctuating nature of the water level, particularly when the estuary mouth closes (water level range between 6 to 8 foot elevation), the Drawings call for overlapping adjacent plant communities to ensure there are plant species present that can survive in these transitional zones. For example, Emergent Wetlands are to be planted from 5 to 7 foot elevation and Transitional Wetlands from 6 to 8.6 foot elevation, so there is an overlap of these two plant communities from 6 to 7 foot elevation. Riparian Scrub overlaps slightly with Transitional Wetlands from 8 to 8.6 foot elevation and continues just past the extreme high water line to 10 foot elevation.

Planting pits shall be excavated to a minimum of twice the width of the container and the same depth as the container.

Container plants shall be placed by removing the entire plant from the container with the root ball intact. The rootball shall be placed without damaging the roots. The plant shall be set plumb and braced in position until the backfill has been tamped solidly around the rootball.

The planting hole shall be filled with native soil to that the plant is level with adjacent ground. Plants shall be watered immediately after planting Contractor must check each plant after watering to correct any soil settling during and after planting.

Contractor shall keep the color-coded pin flags next to the installed plants in order to monitor individual species during the first three months of maintenance period, or until the Restoration Specialist determines that they are no longer needed.

Contractor shall be responsible for watering during the planting event in a frequency and amount to keep the plants in a healthy and vigorous manner. The Contractor shall make daily inspections of all installed plants to determine the need for supplemental water. If more than 10 percent of the plants appear to be stressed from any cause, the Contractor shall immediately contact the Restoration Specialist.

Clean Up

Protective Wire Fencing The Contractor shall clean up the project site at the end of every day. All plant containers and unneeded equipment shall be removed from the site.

RECORD DRAWINGS

GUARANTEE The Contractor shall prepare record Drawings after planting. The record Drawings shall include information on the location and size of the plantings by species. A legend listing all materials shall be included on the record Drawings.

Plant materials that are dead or otherwise unhealthy due to poor installation practices and that are therefore not in conformance with these specifications, shall be replaced at the Restoration Specialist's direction and at the Contractor's expense using plants from the specified grower. Plants installed under this contract shall be guaranteed for one year, from the date of planting, against mortality resulting from defects in planting.

INSPECTION AND ACCEPTANCE

Within 5 days after the completion of plant installation, the Restoration Specialist shall inspect the plantings. If, after inspection, the Restoration Specialist is satisfied with plant installation, the Contractor shall be notified in writing of stage

Measurement and Payment: LANDSCAPE PLANTING: The lump sum price paid includes all costs for equipment, materials and labor for clearing and grubbing, landscape planting (to include excavation, installation, soil preparation, backfill, and cleanup, complete and in place.



Planting Specifications Lagoon Restoration

TBD

C-TBD 7880

Lagoon Restoration Project

for City Approval:

**REVISIONS** 

DATE APPROVED

<u>S0</u> S0 Design Drawn Chk'd MW 30 % **DRAFT** 

Approved: CITY ENGINEER Original Signed Date

DATE

118 PAMPAS AVENUE ANTA BARBARA, ALIFORNIA 93101 805) 898.8717 AX 805.898.0373 mail:dblack@davidblackla.com

**\** 

FA No. BRLS-XXXX BRIDGE NO. XXXX

s from . This test shall

Drawn Chk'd

<u>S0</u> S0

CITY ENGINEER

Original Signed Date

DATE

30 %

DRAFT

**\** 

DATE APPROVED

**REVISIONS** 

Irrigation Specifications Lagoon Restoration FA No. BRLS-XXXX BRIDGE NO. XXXX

TBD ₩

SHT.

7880

Lagoon Restoration Project

for City Approval:

C-TBD

- Shall include all labor, tools, materials, equipment, and incidentals required the landscape maintenance during the contract period at the project site as the drawings, contained in these specifications, and directed by the Enginee
- The maintenance period shall be sixty (60) months in duration. It shall begin immediately after final acceptance of the plant installation and shall continue days thereafter until the end of the contract period. The maintenance period include 36 months for the project irrigation system, at which time it shall be r

 $\circ$ 

œ

- The Contractor must have prior experience in maintaining native herbs, grasses, and shrubs of southern California. Contractor must have successfully completed at least three other projects involving native plants. Contractor must use maintenance techniques and practices appropriate for native wetland plants, and will plan for the appropriate level of effort to provide the required maintenance as described in this section in a timely manner. Contractor must be able to distinguish between native and
- The Contractor shall ensure that container plant survival and weeding performance standards are met through plant maintenance activities during the maintenance per These activities include weeding, application of supplemental water, replanting of diseased or dead plants, mowing and the general care and nurturing of installed container plants and sod replacement areas.
- Maintenance also includes inspection and repair of irrigation system, repair areas, and general site housekeeping and clean up. of eroded
- The Contractor is hereby notified that the estuary contains the endangered species, the tidewater goby, that is protected from harm and harassment under the Federal Endangered Species Act. The Contractor shall not conduct any work that could disturb the estuary banks or bed without prior approval of the Restoration Specialist.
- The Contractor shall provide a single point of contact for maintenance

Ģ

Π.

Ш

 $\Box$ 

- The Contractor shall have a crew size of three laborers to respond to City requests within 48 hours.
- The project site is located along the banks of Mission Creek on City property designated as pesticide free. Herbicide use may only occur on an emergency basis and one time per year in accordance with the City's Integrated Pest Management Plan. Approval of the use of herbicides during the maintenance period may or may not be allowed.

# PERFORMANCE STANDARDS

Provided that the Contractor has met all other previous requirements related to site preparation, earthwork, planting, and plant maintenance, the Restoration Specialist has the discretion, at any time during the maintenance period, to reduce the performance standards, or otherwise modify them to lower levels, if there are environmental or biological factors beyond the control of the Contractor that could not be reasonably foreseen by the Contractor and that would clearly prevent the Contractor from achieving the stated performance standards. Failure to achieve performance standards shall require replanting by the Contractor, as approved by the

ĬΠ

In the event of a flood, severe drought, or windstorm, as determined by the Restoration Specialist, the Contractor shall not be required to provide replacement plantings without a contract change order.

 $\mathcal{O}$ 

œ

Ō

- At a minimum, the Contractor shall conduct inspections every seven (7) days during the maintenance period. During each inspection, the Contractor shall record general observations of plant survival and weed cover. The results of these observations shall be used to identify problems as they begin, so that corrective maintenance actions can be taken before a larger problem develops. The Restoration Specialist will also conduct periodic independent assessments of plant survival.
- The performance standards for the maintenance period related to plant survival shall be periodically measured by the Restoration Specialist during the Maintenance period to determine if progress towards the final standards is being made. At the end of the first 1 month of the maintenance period, 100% of all installed container plants and cuttings present at the beginning of the maintenance period must be present and healthy. At the end of 90 days of the maintenance period, 85% of all installed container plants and cuttings present at the beginning of the Maintenance period must be present and healthy. If these performance standards have not been met, the Restoration Specialist shall specify the amount of replanting to be conducted by the Contractor at the end of 90 days of the maintenance period necessary to achieve the performance standards. Replacement plants must be derived from local stock and purchased from a nursery specialized in growing local native plants such as Growing Solutions or Santa Barbara Natives. Failure to meet the 90-day standards will result in non-payment of invoices until replacement planting has been completed.

 $\mathcal{O}$ 

During the first 90 days of the Maintenance period, the Restoration Specialist shall make periodic measurements of plant health and survivorship. If the Restoration Specialist notes that 15 percent or more of the plants are unhealthy or dead, at any time during the maintenance period, the City shall withhold payment of invoices until the source of the problem has been identified and corrective actions taken.

щ

Ш

The performance standard for weed control throughout the maintenance period is that plant cover by noxious invasive weeds at the project site shall not exceed 10% of the total vegetative cover at any time. These species include wild fennel, cocklebur, mustard, white sweetclover, cheeseweed, castor bean, filaree, bermuda grass, English ivy, kikuyu grass, Japanese honeysuckle, arundo, European sea rocket or any other aggressive weed designated by the Restoration Specialist. Plant cover by non-native species that are common to the site that are not considered noxious or highly aggressive or otherwise a threat to the native flora will not exceed 10% of the total native plant cover. These species include naturalized grasses such as brome grass, wild oats, barley, and ryegrass. The cover of native and non-native plants will be measured on a periodic basis during the maintenance period by the Restoration Specialist to determine if the performance standard has been achieved. Failure to meet standards will result in non-payment of invoices until weed cover standards are

MONTHLY INSPECTION REPORT. The Contractor shall submit a monthly inspection report to the Restoration Specialist during the maintenance period. The report shall indicate the status of installed plants, condition of erosion control mat, weed conditions, condition of irrigation system, watering coverage, corrective actions taken, and recommendations for future actions, as necessary.

- œ HERBICIDE TREATMENT PLAN. In the event that herbicide use is approved by the Restoration Specialist and allowed under the emergency provisions of the City's Integrated Pest Management Plan, Contractor shall provide a description of the herbicide to be used at the project site for the plant maintenance including dilution and application rates; manufacturer's name; application equipment and methods; measures to protect the public, including signs, barriers, notifications, etc; measures to avoid spraying protected plants; measures to avoid discharge into creek water; evidence that the applicator is licensed to apply the herbicide; statement that the herbicide is approved by state and federal agencies for work in the type of environment at the project site.
- RECORD DRAWINGS. At the end of 24 months of the Maintenance period, Contractor shall prepare Record Drawings that show the location of plants.

### **PRODUCTS**

PART

### HERBICIDE

N

. 01

### WATER

during n. The Contra

- system as nece throughout the
- and duration of watering operations shall depend on current weather te-specific soil moisture conditions. The Contractor shall be responsible sproval from the Restoration Specialist the watering schedule and is.

Ö

### REP CEMENT PL/

3.02

≻

- thods for replacement plants shall be in strict conformance to specifications, and the Restoration Specialist's direction.

- All weeding shi minimal disrup plants.

 $\circ$ 

ĖΩ

Ö

Specialist and Management F AquaMasterTM shall k Specialist and allowed Management Plan.

the maintenance period shall be provided by the City from on-site City shall supply water to the project irrigation system at no cost to actor shall have full authority to use water as needed to meet these

### THREE EXECUTION

PART

WATERING

3.01

- provide an adequate supply of moisture within the root zone of each normal growth period of the plant.
- specified above, or at a greater frequency, as necessary to throughout the maintenance period to evaluate the condition of plants, the need for irrigation, and the application of water. These investigations will include inspection of all plants for signs of inappropriate watering, including water stress (caused by lack of water or overwatering), stunted growth, wilting, premature leaf loss, and premature yellowing of leaves. If 10% of the plant material appears to be stressed and in danger of perishing, the Contractor shall consult the Restoration Specialist to determine the frequency and duration of additional or decreased watering. The Restoration Specialist shall provide approval to the Contractor of any modifications to the approved watering schedule.

  At no time shall water be applied in a way that will cause erosion, damage to plants, runoff, or damage to existing or naturally colonizing vegetation. If the watering application rates need adjustment, the Contractor shall be responsible for immediately corractive actions resulting from inappropriate water applications and failure to contact the Restoration Specialist for direction.

- The purpose of replacement planting under this section is to replace plants that died during the maintenance period due to natural mortality or factors that are outside the control of the Contractor. In these situations, the City will provide the plants for replacement planting. However, replacement planting for plant mortality due to poor installation or maintenance practices shall be conducted by the Contractor (plants and labor) at the Contractor's expense as noted elsewhere in the specifications.
- Replacement p period based or The Restoration planting is due Contractor shal when requestin planting shall occur, as needed, at the end of the 90-day maintenance on whether the performance standards for these periods have been met. on Specialist shall provide all replacement plants, unless replacement to plant mortality from poor installation or maintenance practices. The all provide the Restoration Specialist with 30 days advance written notice ing replacement plant materials.

ĖΩ

The Restoration Specialist shall provide all replacement plants, as needed. For the sake of bidding, the Contractor shall assume 100 replacement plants to be installed the end of the maintenance period due to natural mortality, and as such, the City will provide the plants and the Contractor shall install them.

### CONTROL

⋋

3.03

Ō

- า nearby spraying. ว of bank.
- due to herbicide ant material and

## OTHE

Ţ

⋋

- During the maintenance period, the Contractor shall inspect the erosion control mats on a weekly basis, or more often if needed, and after ever rain event. The Contractor shall repair or replace mats or fiber rolls that are dislodged, damaged, ripped, torn, eroded, or otherwise caused to be non-functional. The Contractor shall also repair any erosion to earthen banks caused by failure of the erosion control mats or fiber rolls. maintenance work shall be performed within one week of locating problems, but always prior to the next winter rain event.
- During the maintenance period, the Contractor shall inspect the irrigation system on a weekly basis, or more often if needed. The Contractor shall repair or replace parts that damaged or non-functional. The City shall reimburse the Contractor for parts.
- During the Maintenance period, the Contractor shall inspect landscaping and prune plants for proper growth and to remove diseased stems, or remove obstructions on paths.

 $\circ$ 

Throughout the maintenance period, the Contractor shall keep the project site, areas adjacent to the project site, and trails in a neat and orderly condition and free and clear from debris and discarded materials. The bridge shall be kept clean of debris, soil, and plant material from maintenance activities.

### RECORD DRAWINGS

- The Contractor shall keep up-to-date as built record drawings during period. These drawings shall be updated, as needed, and submitted Specialist at the end of the contract period.
- of the planting า the record

### GUARANTEE

⋋

- Plants installed under the contract shall be guaranteed for the length of the maintenance period against mortality resulting from defects in maintenance
- Plant materials, including seeded areas and transplanted plants, that are dead or found to be unhealthy because of poor maintenance practices and that are therefor in conformance with the drawings and specifications, shall be replaced accord to the Restoration Specialist's direction and at the Contractor's expense. All replacements shall be in strict conformance to the drawings and specifications.

- INSPECTIONS AND FINAL ACCEPTANCE

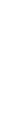
  A. The Restoration Specialist will conduct periodic maintenance period.
- Areas determined as unacceptable, due to lack of performance in a specifications, shall be reworked and replanted at the Contractor's necessary, according to the project specifications. The Contractor after any resulting extension of the maintenance period and will do so cost. At the end of the maintenance period, at the Contractor's request, the Restoration Specialist shall inspect the project site to evaluate the acceptability of the maintenance practices. in accordance with the or's expense, as tor shall be responsible o so at no additional

 $\mathcal{O}$ 

ĊΩ

Ō

At the time of the final acceptance observation by the Restoration Specialist, the Contractor shall have maintained the project in its entirety according to the performance standards, the drawings, these specifications, and the Restoration Specialist's direction. If, after inspection, the Restoration Specialist is satisfied with the maintenance practices and all plant survival and weed cover goals have been met, the Contractor shall be notified in writing of final project acceptance. If, after inspection, the Restoration Specialist is dissatisfied with the maintenance to date and its conformance to the drawings and specifications, the Restoration Specialist will prepare a written punch list of necessary corrective actions on defective work for that stage. The corrections must be completed by the Contractor within 10 days of the initial observation





Maintenance Specifications Lagoon Restoration

7880 7880 PBW. No. C-TBD oFTBD

Lagoon Restoration for City Approval:

Project	
ıl:	

NO.

**REVISIONS** 

DATE APPROVED

Drawn Chk'd

<u>S0</u> <u>S0</u> 30 % **DRAFT** 

CITY ENGINEER Original Signed Date

DATE

**-**

FA No. BRLS-XXXX BRIDGE NO. XXXX